

Nomadic Eco-Villages

Exploring New Nomadic Lifestyle and Festival
Culture in the Urban Setting

Chapt. 1 - Neo-Nomadism



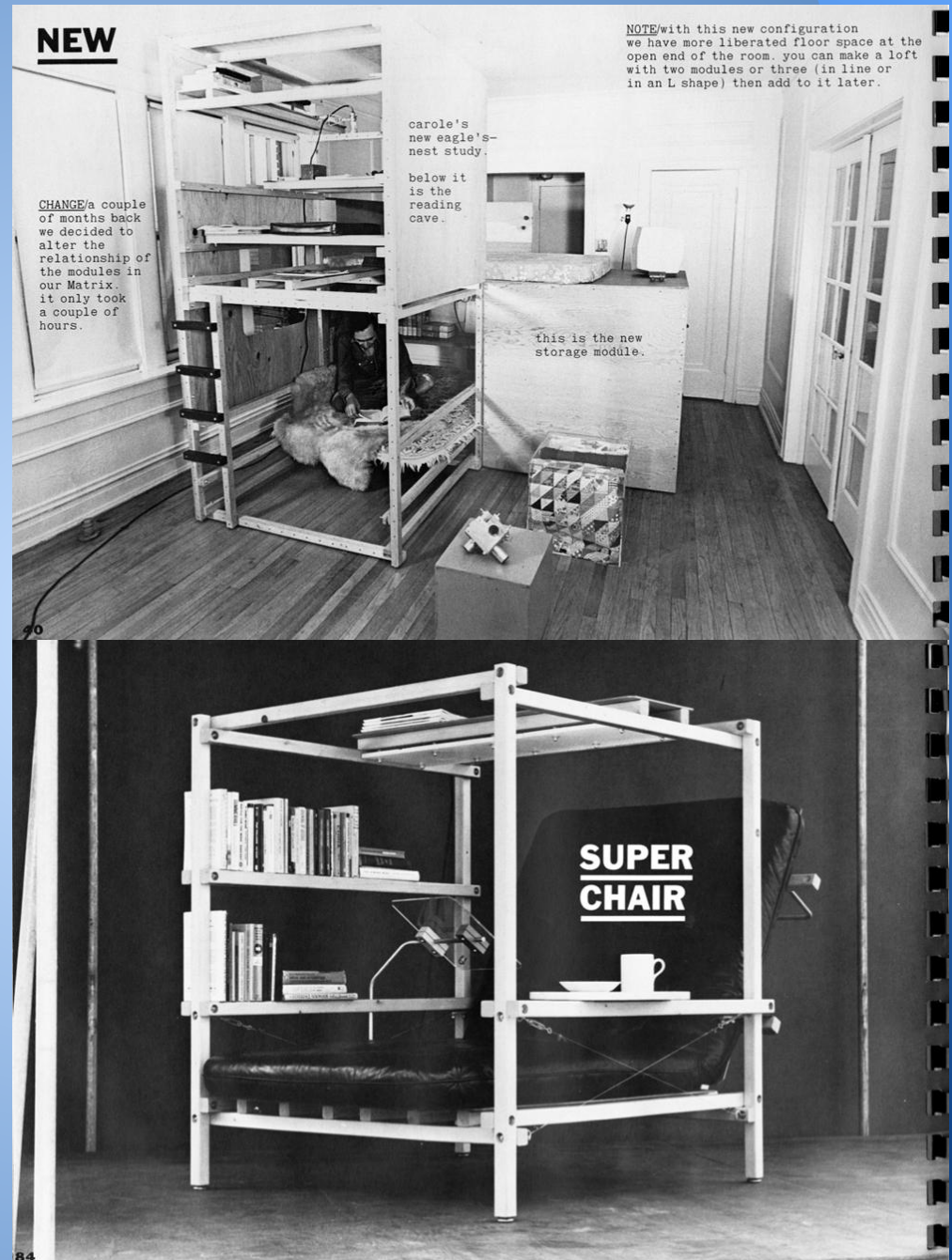
We tend to regard nomadic living as a relic of ancient civilizations, obsolesced by Industrial Age culture and its modern housing. But, in fact, we are a more mobile society than ever in history. Corporate employment has compelled a highly mobile workforce with a subsequent severing of family ties and dissolution of community. Recently, impacts of Global Warming combined with failing economics are now putting billions on the move--an unprecedented mass human migration. Yet our built habitat, and those who design it, persist in a delusion of permanence.



But there have always been those who see hints of the future in our past and for some time a handful of designers have considered the prospect of a modern, sophisticated, nomadic lifestyle. Anticipating imminent paradigm shifts as the un-sustainability of Industrial Age life became apparent, some designers in the mid and late 20th century imagined the emergence of a new nomadic culture in its wake; an Urban Nomad culture of young people re-appropriating technology for open public use, repurposing the obsolete detritus of the passing era, and rediscovering community in the process. Key among these designer-futurists was Ken Isaacs whose exploration of clever DIY structures bridging architecture and furniture drew global interest.



Dubbed 'Living Structures', Isaacs' clever designs were premised on making better use of urban living space through volumetric, multi-functional, designs as well as on the idea of empowering people to make and customize furnishings for themselves instead of relying on the market's pre-packaged solutions. Thus Isaacs' designs represented parametric, modular, systems of DIY construction and design rather specific artifacts. Demonstrations of what the user might create rather than simply something to copy or buy as a kit. In many ways Isaacs anticipated the Maker movement so prominent today.



Living Structures, along with Isaac's exploration of 'microhouses', proved quite popular, inspiring many others to further explore the possibilities of what came to be called 'nomadic' design and the novel, light, lifestyle it hinted at. This influenced a general movement for DIY and recycled design that became characteristic of the youth and environmentalist cultures of '70s and also influenced such things as the Lofting Movement, the High-Tech interior design fad of the '80s, the Upcycling movement of the '90s, and perhaps culminating with the Microhousing and Cargotecture of today. Isaac's building methods later evolved into the popular Box Beam system empowering many early eco-tech experimenters. (and eventually becoming the Grid Beam system today)



But the new culture this had all anticipated never quite materialized. Industrial Age Capitalism bought itself a temporary reprieve through Globalization, credit liberalization, and consumerism. The youth movements of the late 20th century foundered. Public interest in green technology faded with the memory of the '70s Oil Crisis. Environmentalism lost its momentum amidst a rising tide of religiosity and conservatism in the '80s. The demographic situation of young adults in the western world changed. No longer were cities the key cultural hubs as runaway gentrification and expanding real estate market bubbles trapped the young in place-less, soulless, suburbs.





With the advent of the Maker movement, emerging as it has from the high-tech/computing hobbyist subculture, along with a resurgence of 'bright green' environmentalism has come a renewed interest in various notions of 'light' lifestyle. The Internet and mobile computing have brought a new lightness to our culture, supplanting some of the mass of consumer goods and physical property that once defined standard of living. Perhaps first inspired by the 'technomad' experiments in mobile computing in the '90s and influenced by the popularity of events like Burning Man as well as the growing interest in relief/aid architecture, another wave of Neo-Nomadism is now emergent.



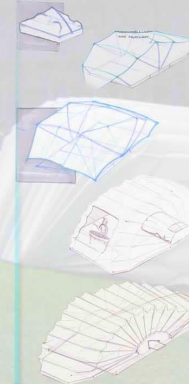
With this renewed interest has come a rediscovery and renewed exploration of many of the nomadic design concepts of the 20th century. Ken Isaac's ideas in particular have found new life with the interest of younger, more conscientious, more hands-on, designers now empowered by new digital design and fabrication tools.

Though often characterized as 'high-tech' nomadism, this new movement is not quite the 'technomadism' of computing experimenters. It's not about demonstrating technology or novel gadgetry but rather about using it, in combination with sophisticated design, as leverage on gaining a lighter, less encumbered, lifestyle without compromise in standard of living.

Some of this renewed interest in light living has developed from the recent pursuit of new disaster relief architecture, seeking to apply new design and technology toward better relief response and outcomes--critical in an age where global climate change is increasing the incidence and severity of weather-related disasters.

recover

The design objective was to create a structure that could be used as housing for disaster relief victims. The challenge was to build a mobile space capable of housing a family of four for up to one month. It must be transportable on a 4x8' trailer.



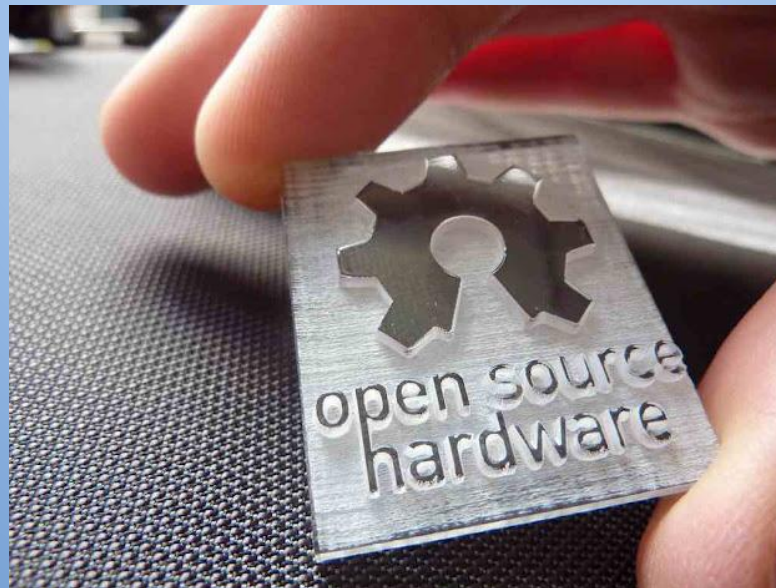
designed by: Matthew Malone



Festivalism and the growing popularity of events such as Burning Man have also been a great influence, encouraging people to apply their playful creativity to temporary DIY architecture.



Key to this is the embrace of open source technology--so often associated with these new design and fabrication tools--and the new, independent, more social infrastructures it is capable of realizing. With alternative infrastructures come new economic options and opportunities not offered by, or even possible for, conventional economics. This, in turn, presents new potential solutions for many social issues that, at their core, are keyed to the inherent limitations of the Industrial Age paradigms our contemporary civilization is rooted in. Already many Makers have looked beyond open tech's impact on the high-tech industrial realm and extrapolated its potential in the developing world context. Yet few have considered, as yet, similar impacts right at home, in their own communities.



Chapt. 2 - Who Are The Neo-Nomads?



We imagine the Neo-Nomad, somewhat fancifully perhaps, as the living embodiment of the concept of 'outquisation'. Mobile Makers with a mission. The term 'outquisation' was coined by Alex Steffen and Cory Doctorow to refer to a vision of the future rather similar to that imagined by the Urban Nomads of the '60s and '70s. A future movement of tribal Makers independently cultivating Post-Industrial technology and culture and engaging in urban intervention in response to the incremental collapse of Industrial Age infrastructure.





In a more practical sense, we are referring to a loose, internetworked, community of younger, less well established, members of the so-called creative/technical class pursuing a nomadic/festival lifestyle for its creative opportunity and the rediscovery of community. Predominantly urban, often entrepreneurial, and often 'tribal', they look to event venues and the adaptive reuse of abandoned or underutilized urban space to create transitional low-cost accommodations for living, work, and exposition, much as the artist community has long done. Today, an increasing amount of people's significant possessions have evolved into digital media existing on the 'cloud'. This has created the potential for, physically, less encumbered lifestyles that are inherently more sustainable. The Neo-Nomad is the proactive explorer of these new possibilities.



But these are no mere parasites of the urban landscape. As Makers, they are cultivators of new, open, technology with purpose. Their pursuit of adaptive reuse often extends far beyond novel lifestyle to the attempted experimental transformation of the urban habitat into a more sustainable, liveable, environment. They engage in urban intervention, catalyze community activity, seed new kinds of growth through new, more appropriate, technology and design. Subsequently, they are also cultivators of new economic opportunity. A positive impact on communities in the way that artists have so often inadvertently catalyzed gentrification by their presence--often to their own subsequent detriment and displacement.

Chapt.3 - Seeking A Nomadic Vernacular

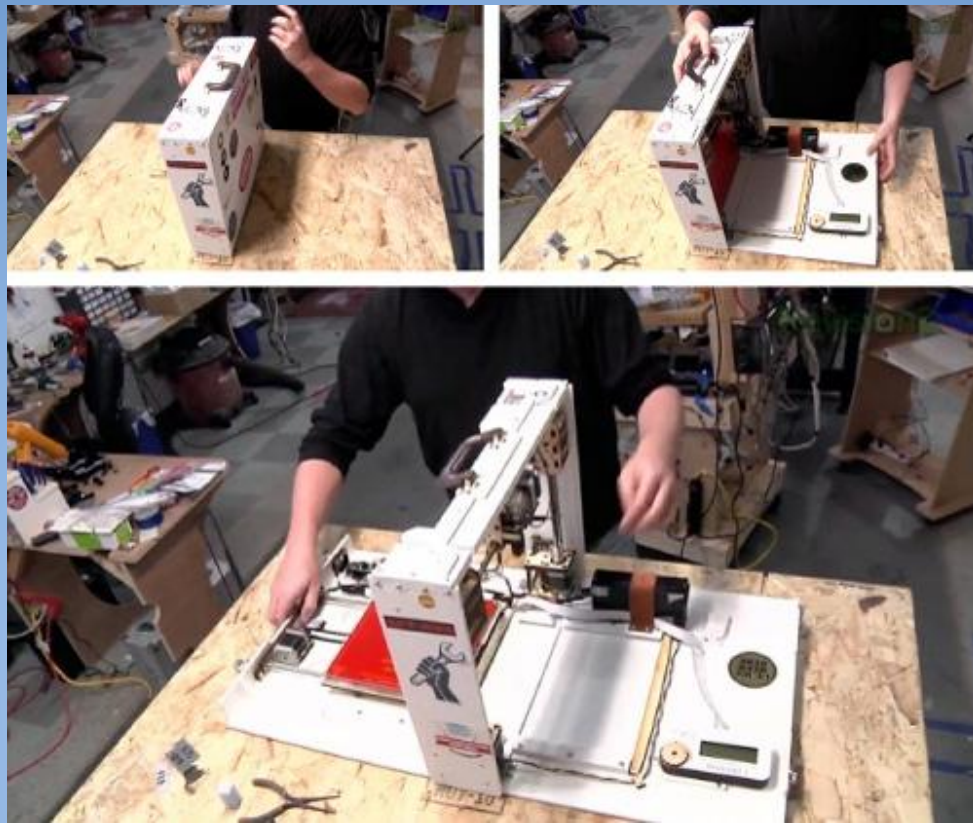


The vernacular architecture of nomads past evolved to suit very specific environments, situations, transportation, and logistics. They lived mostly in vast open spaces and relied on human and animal transportation to cover very long distances without the benefit of roads. Infrastructures were social. They relied on hunting and gathering, or later, the following and then husbandry of key migratory herding animals. They have always tended to walk a very thin line between comfort and strife, the activity for subsistence dominating their time.



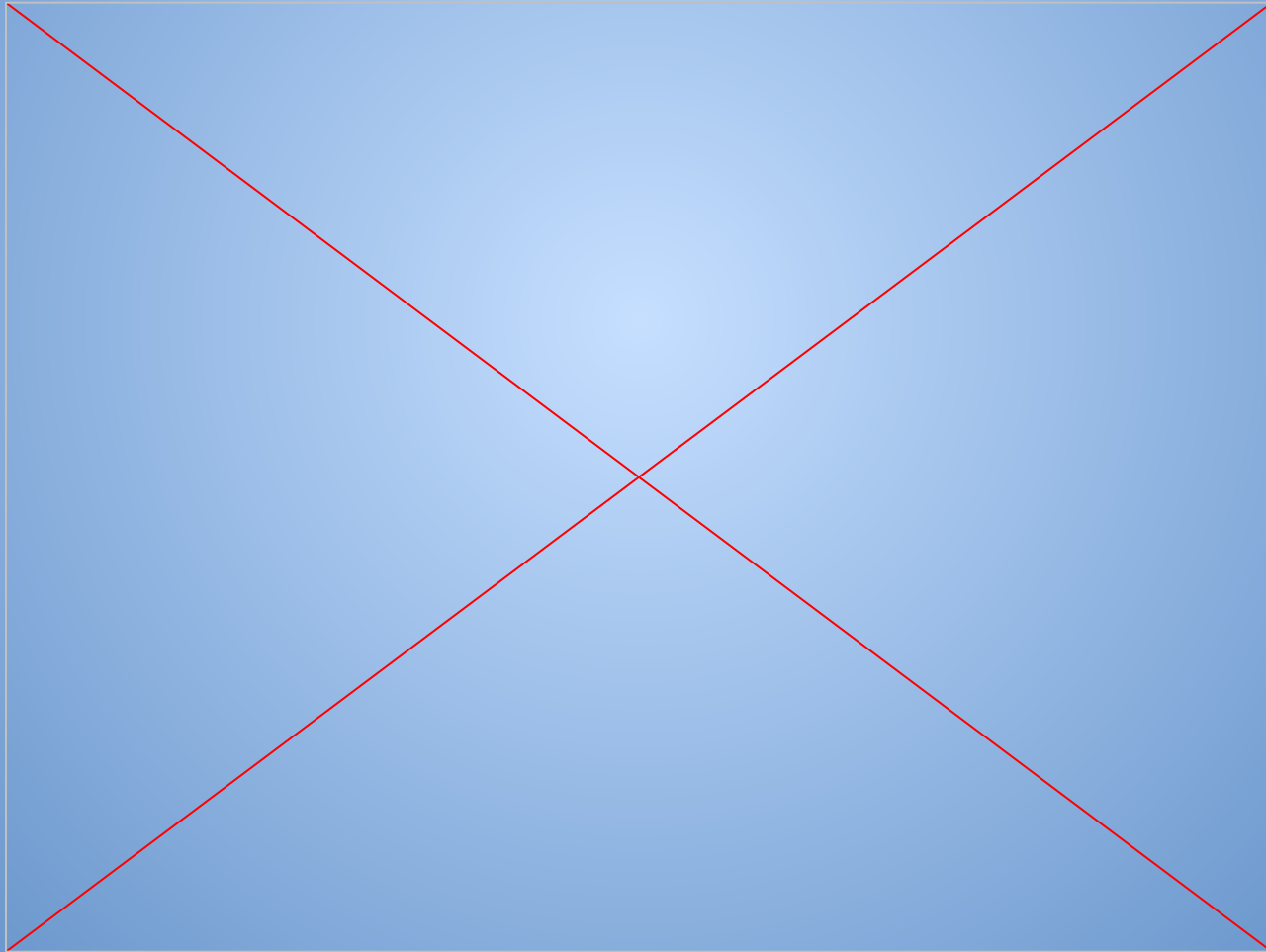
The contemporary nomad, even in relatively remote situations, enjoys the benefits of regional and global infrastructures, roads and telecommunications in particular. Though some may explore more open wilderness environments, we foresee today's new nomads becoming predominantly urban nomads, operating within and moving between urban habitats where they rely on very different modes of transportation and the repurposing of urban spaces. Instead of devising 'total' portable shelter, they utilize existing urban structure as primary shelter hosting smaller, lighter, personalized shelters that can be moved with relative ease within buildings and along paved streets.





The contemporary nomad may also rely on social infrastructures, but now digitally networked. The individual may have a permanent Internet identity and presence, connecting to a community of hundreds of thousands with telecommunications offering novel means of collaboration. Our new digital tools of production continue to shrink in scale and cost and have now become portable. The Neo-Nomad, now often a Maker as well, has a robust personal potential for industrial production, able to engage in light industry and fabricate his now more sophisticated gear much as his ancient predecessors did.

With the advent of hydroponics, even systems for farming have become as readily portable as any of the rest of the neo-nomad's gear. Though nomads now may still rely largely on the conventional food market and infrastructure, intensive small scale crop production is now possible virtually anywhere, indoors or out.



The contemporary nomad may employ many variations on the general nomadic lifestyle with many different premises for their choice of this mode of living. Some may pursue a more solitary, more frequently mobile, life, relying on shelter designed to be smaller, more all-inclusive in function, and more independently weather-resilient. Others may operate in a more tribal fashion, employing more specialization among a collection of portable elements with designs intended for a more sheltered, indoor, situation, relying on larger shared structures as 'skybreaks'. Nomadic approaches may not be used for habitation at all but rather applied just to work, commerce, and exhibition activity. Given how mobile our society is in practice today and how flexibility is increasingly important in the domestic environment, the line between what we characterize as 'permanent' and 'temporary' habitat is now very blurry. Many of the elements designed for nomadic living would be perfectly functional in the more permanent habitation and workplace contexts, thus allowing nomadism to be transitional into more sedentary lifestyles.

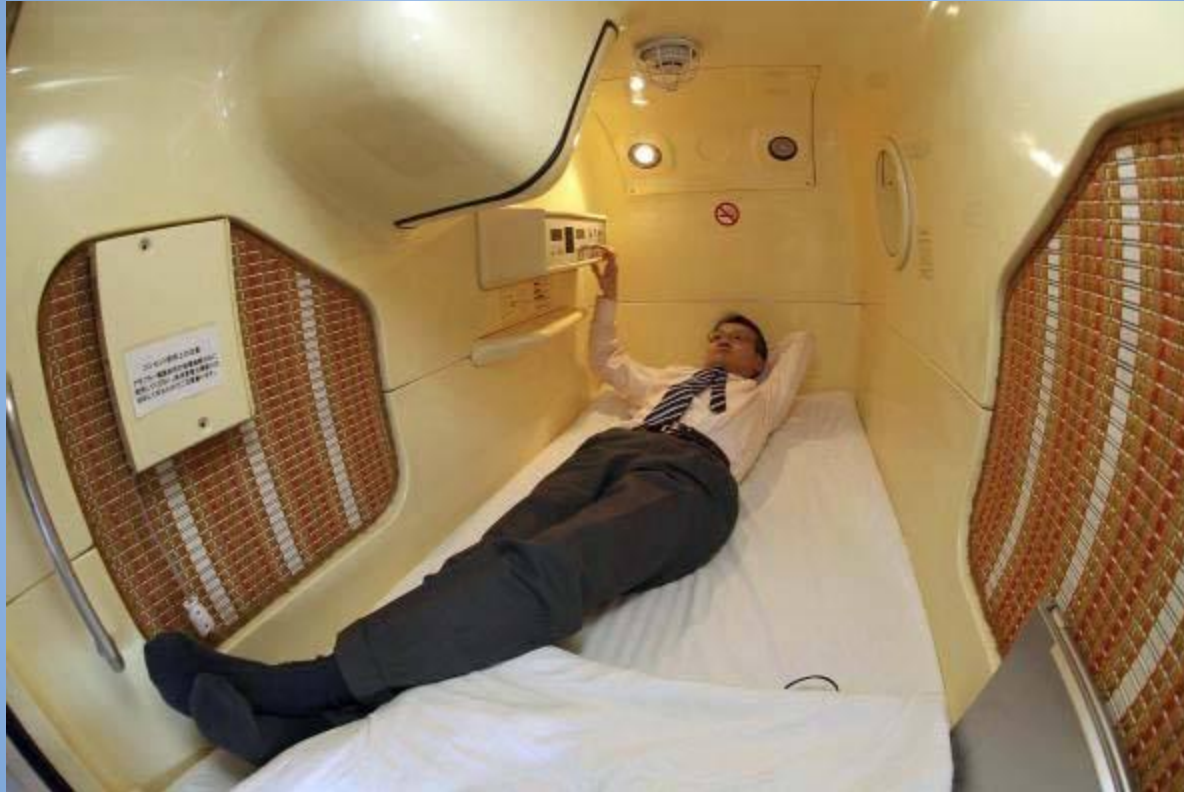
Given such variation, can we identify a common vernacular for contemporary nomadic architecture that covers most uses? In fact, we do see many common features in contemporary nomadic design much as we can see in ancient nomadic architecture across many cultures. Five design ideas in particular seem to commonly repeat...

The Walled Tent or Yurt



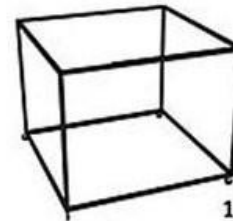
This also includes most uses of geodesic domes, whose portable forms are skinned with now highly resilient architectural fabrics or membranes.

The Capsule Hotel Unit



Though not mobile itself, a very popular inspiration for mobile shelter design, producing many self-contained variations on the concept.

Living Structures



TheTinyLife.com

Deployable multi-function frame structures used chiefly indoors that are direct derivatives of Ken Isaac's concepts, though now employing a large variety of materials and building systems.

The Wheeled Box



Pod Forms



We refer to these concepts collectively as 'furniture'; designs that bridge the line between architecture and furniture. More enclosed types may be referred to as 'pod furniture' which relates more specifically to designs that feature a high degree of enclosure and more self-contained forms.

This relates to an old concept from the '60s called Pod Living which explored the idea of open-plan environments outfit by appliance-like 'pods' that defined the functions of rooms. It failed to catch on as open-plan housing space was still quite rare at the time and these early pod designs tended to be rather unwieldy.



Furniture represents a very flexible vernacular, capable of deployment in many situations but particularly well suited to repurposing the kinds of urban structures typical today. With the option of separating the function of weather shelter from the other aspects of housing, furniture allows for great creative freedom, use of a much broader spectrum of materials and construction methods, and great economy. We anticipate many modes of use, such as;

- Quick adaptive reuse of industrial and commercial buildings
- Employing temporary tension and dome structures as 'skybreaks', particularly in a festival setting.
- Employing deployable/demountable macrostructures as pop-up urban habitats
- Creating minimalist stationary habitat structures in strategic locations for seasonal/cyclic nomadism (what Ken Isaacs referred to as Mobilism)
- Serving relief/aid situations utilizing large span skybreaks or existing buildings.
- Creating permanent but freely changeable homes from simple pavilion or compound structures.

Chapt.4 - Situations





In this section we examine some of the possible situations in which nomadic architecture is likely to be used and what variations on our suggested vernacular will likely be employed. As we noted, there are many possible variations on this approach to habitation and the use of nomadic design. But here we consider some of the more likely, mostly urban, situations and how Neo-Nomads will adapt to them.

As we noted earlier, urban nomad shelter designs may often rely on a separation between the functions of weather shelter and personal/functional space to afford more easily mobile elements made with a greater variety of materials. The nature of most situations we envision is defined by the likely forms of these 'skybreak' structures, in urban situations consisting chiefly of found structures already in the urban environment.

Exposed Urban Encampment



Many exposed or partially sheltered spaces exist in the urban environment that might be host to short-term encampment. Rooftops in particular are attractive locations. But they do attract more negative attention and require structures that are more quickly moved and independently weatherproof. In protest situations potential disposability is assumed.

Indoor Urban Encampment



By far the most likely and versatile of urban situations, indoor encampment utilizes found urban structures--lofts, studios, empty office buildings, warehouses, industrial buildings, and transportation facilities--as primary shelter for anything from temporary to virtually permanent habitation. Situations can range from individual to large persistent settlements repurposing whole buildings. Much more freedom of design is afforded by eliminating the need for weatherproofing and with longer duration reliance on demountable rather than immediately portable furniture becomes practical.

Deployable Skybreaks



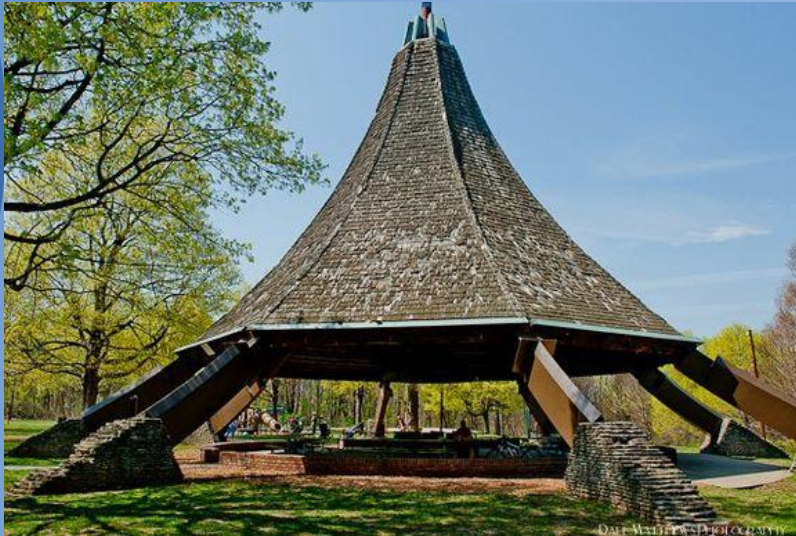
Deployable skybreaks are light free-standing roof structures such as event tents, tension roofs, and geodesic domes that provide basic weather shelter like a building but can be moved. These can be quite large, accommodating individual to large group situations. But they require larger open spaces to deploy and so would tend to be used in festival situations more than urban situations.

Deployable Superstructures



These are deployable volumetric structures based on modular construction that serve as a host to nomadic structures allowing them more volumetric use of space. They can use many different kinds of building systems and optionally support skybreak like shelter. They tend to be expensive and bulky but are well suited to persistent group settlements with limited ground space.

Permanent Skybreaks



Though today largely the province of Modernist architects and Parks & Recreation departments, going back to ancient times people have built simple open pavilion shelters as seasonal habitation. In his later work, Ken Isaacs developed a concept relating to this called 'mobilism' where the primary, durable, elements of shelter would be left permanently in strategic locations for seasonal use while the less resilient and portable elements would be carried place to place. We envision this concept using very durable but minimalist pavilion structures which a more well organized nomadic community could build in strategic locations, arraying them in compounds and moving between them season to season. Perfectly suited to permanent residence, such structures could offer a path of transition to fixed or persistent settlement.

Tribes of the Outquisation

Imagining a Nomadic Scenario of the Future



Lets engage in some creative speculation in an attempt to illustrate the urban nomad lifestyle. In the not so distant future a regional economic downturn has put many companies out of business and created a real estate crisis. Once thriving industrial and office parks on the urban periphery have been abandoned and 'bedroom' communities with no independent economy are struggling to survive. A disaster for many but an opportunity for one community; Makers who have been independently cultivating advanced technologies of independent subsistence and production and are ready to intervene in this time of crisis. The fallow corporate campuses now offer them a valuable resource to exploit for nomadic settlement property owners and governments are now too broke and desperate to resist.





In convoys of peculiar human-powered and alternative energy vehicles coming from various directions, an Internetworked tribe of nomads converges on one campus. Their objective; to turn the once engine of commerce into a new kind of engine. A new center--ashram--of independent industry and sustainable urban agriculture to revitalize the region. A nomadic eco-village.

Mere youngsters, yet wise in ways their parents never were, they begin their work, assessing the condition of the abandoned buildings around them. To most these may seem worthless ruins of an increasingly anachronistic era. But to these youngsters these stripped-down skeletons of concrete and steel are a great resource.



Upon deploying their 'beachhead' encampment, their first task is to equip these skeletons with a new 'skin' to allow more diverse furniture to be installed. A retrofit facade framework is assembled supporting high-tech membrane cladding, some panels equipped with flexible photovoltaics and others acting as solar thermal collectors or filters. Computer modeling and simulation has allowed the group to quickly develop a passive energy profile of the buildings and devise a renewable energy deployment strategy.





Deployable utilities systems are then installed, mostly on the rooftop and in upper floors. Deployable wind turbines. Large roll-up photovoltaic arrays. Solar thermal panels. Light-collecting heliostats that pipe natural light to the building interior by fiber optic cable.



With clever hybrid systems, solar thermal energy is used for heating, cooling, and distillation of water. Other solar collectors are used for algaeculture, producing both food and feedstock for aquaculture and the production of ethanol. Our nomads have devised innumerable new ways to exploit renewable energy, so long overlooked by the previous generation.

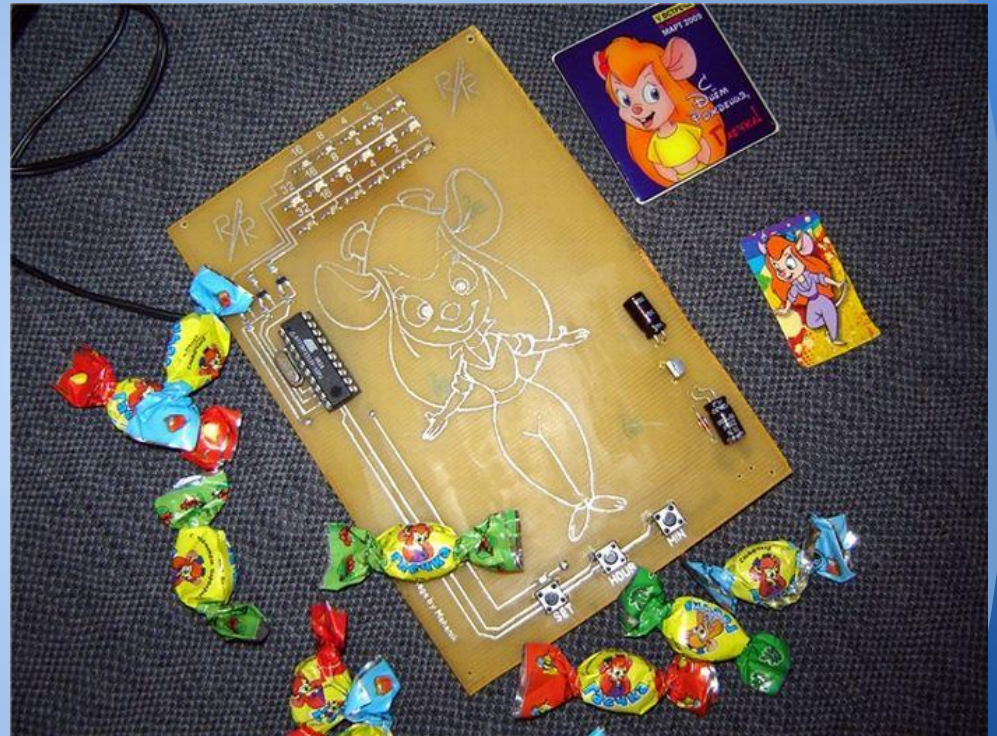
Then come the gardens, some deployed on roofs but, for maximum efficiency, mostly fashioned as vertical hydroponics systems exploiting the south-facing sides of buildings or using self-contained intensive indoor arrays lit by hybrid electric and fiber optic lighting systems. As simple as they are high-tech, these systems use mostly vertical channels or panels easily suspended along the open edges of the stripped-down building floors, and just as easily transported whole to market. Arrayed in cylinders around vertical light sources, they can be placed anywhere indoors as self-contained growing pods and combined with mobile fish tanks for aquaponics. Soon the buildings appear like literal urban jungles, covered in a verdant blanket.



Already radically transformed, the buildings are now ready for habitation and the nomads now install their indoor villages. Pod furniture--mostly an assortment of boxes on wheels--is brought in and arrayed to form different functional zones. Cabin pods, serving mostly as miniature bedrooms and personal goods storage, are grouped in family or friend groups around common lounge spaces. Cooking pods unfold into cafes. Media pods unfold into miniature theaters. Workshop pods unfold into various workstations or enormous digital machine tools. Exhibit pods unfold into elaborate multimedia displays sharing the details of this novel lifestyle and technology with visiting public.



Within a matter of weeks our nomads have transformed a symbol of economic failure into a thriving new eco-village serving as a nexus of eco-tech and new open production education and an engine of new regional alter-economic activity. A similar transformation spreads into surrounding communities, the jobless applying new-found skills and tools to new entrepreneurship, their neighborhoods evolving into self-sufficient eco-communities with their own independent infrastructures. Soon the nomad tribes are moving on to other regions, their mission accomplished, their nomadic dwellings evolving into a persistent strategic settlement.



Chapt. 5 - Nomad Aggregators

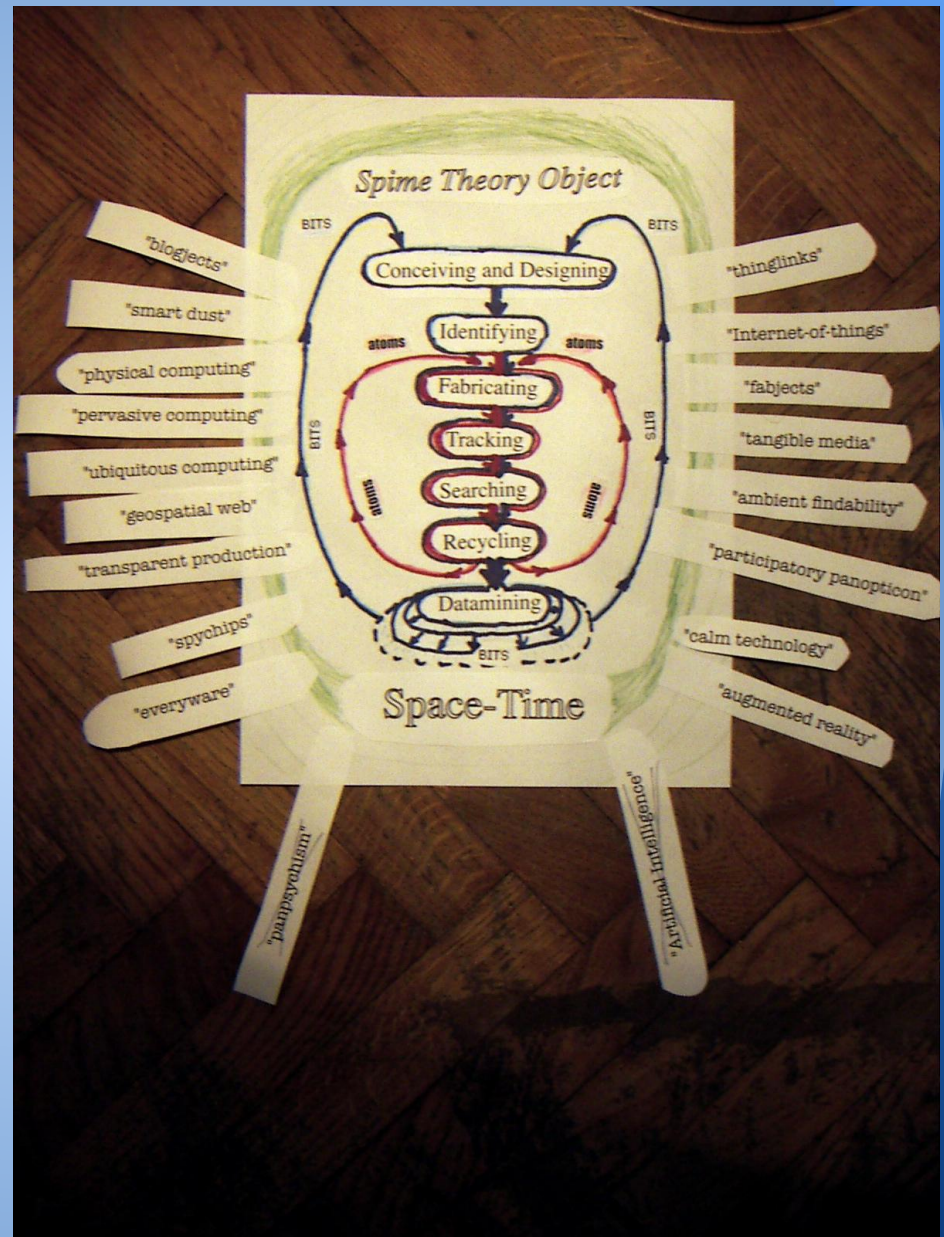
Demonstrating the Nomadic Eco-Village



We come now to a proposal to demonstrate the many concepts of nomadic architecture and lifestyle we've discussed through the creation and exhibition of a modest sized Spimed Nomad Aggregator; a kind of neo-nomadic village. A 'nomad aggregator' is a persistent yet mobile nomadic habitat that serves as a nexus of nomadic cultural, research, and industrial activity. We propose to demonstrate this with a small indoor eco-village, repurposing the space of an empty building using the kinds of Pod Furniture and mobile systems we've described.



The term 'spimed' comes from futurist/SF writer Bruce Sterling who coined the term 'spime' to refer to the digital embodiment of future products as a kind of semantic web existing independently of individual goods but aggregating the knowledge generated by their use. The spime is the essential object. Physical goods just iterations of it. In our proposed village a collective semantic web would be created for all the spimes of open hardware designs used in the village so as to afford a means to distribute them on-line and aggregate their experimental use by others world-wide. Items would be digitally tagged to link them as iterations of their individual spimes and log information on their fabrication and use.



Our proposed indoor village would be intended to demonstrate a broad spectrum of function and self-sufficiency through a collection of more-or-less specialized portable Furniture elements that, when deployed, repurpose the generic building space they are located in. Likely elements of our village would include;

- Various forms and sizes of personal Cabin Pods, grouped in clusters.
- Central lounges around which clusters are arrayed.
- Cooking Pod with deployable cafe seating.
- Energy Pod combining solar, wind, and natural light heliostat.
- Communication Pod combining WiFi and data center.
- Farming Walls and Pods using hydroponics and/or aquaponics.
- Various Workstation Pods for different work activity.
- Mobile Factory Pod with several deployable machine tools.
- Mobile art and exhibition structures.

Some additional functions would be relegated to later, larger, exhibitions, due to the need for more sophisticated fabrication and engineering. These would include;

- Toilet and Bathing Pods using incinerating toilets.
- Mobile Living Machine systems for waste water treatment.
- Water generation/collection systems.
- Active Composting Pod.
- Hybrid solar thermal additions to the Energy Pod for utility heat and water distillation.
- Algaeculture Pod and Ethanol processing system.
- 'Motorpool' of alternative energy vehicles.





Though we demonstrate this approach to habitation in a neo-nomadic and festival context, it should also demonstrate it's ready application to other practical uses such as low cost student housing, relief shelter, mobile hospitals, transitional housing, temporary/periodic marketplaces, mobile hackerspaces, mobile science, industry, business, and military facilities, studio residence for artists, art installations, urban intervention projects, and more. The spectrum of uses for such Pod Furniture is vast. It represents a whole new field of industrial design.

Conclusions





It has become almost cliché to suggest that we live in a fast-changing world, yet we continue to cling to ideas of permanence. Neo Nomadism challenges these suppositions, hinting at a future culture that is likely to be far less attached to the material and where networking--digital and social--become increasingly critical to how daily life functions. With these experiments in neo-nomadism we explore the frontier of this future lifestyle and culture without high risk. We glimpse a civilization de-centralized and de-massified -- economically, industrially, and in terms of power-structures. Neo-Nomadism is not so much about mobility, about traveling, as it is about adaptive response to an increasingly dynamic situation of life. The Neo-Nomad is the supreme surfer of change in a dynamic world.